This document contains Part 2 (pp.ES10–ES14) of the Executive Summary of the National Coastal Condition Report III.

The entire report can be downloaded from http://www.epa.gov/nccr

National Coastal Condition Report III

Executive Summary

Part 2 of 2

December 2008

According to the EPA's NLFA data for 2003, the number of coastal and estuarine waters under fish consumption advisories represent an estimated 77% of the coastal waters of the conterminous United States, including 81% of the coastal shoreline miles and 56% of the estuarine area along the Northeast Coast; 100% of the shoreline miles along the Southeast Coast; 100% of the shoreline miles and 23% of the estuarine area along the Gulf Coast; and 10% of the shoreline miles and 31% of the estuarine area along the West Coast (Figure ES-4). Every Great Lake is under at least one fish consumption advisory, and advisories cover 100% of the Great Lakes shoreline. Although advisories in U.S. estuarine and shoreline waters have been issued for a total of 23 individual chemical contaminants, most of the advisories issued resulted from four primary contaminants: PCBs; mercury; DDT and its degradation products, DDE and DDD; and dioxins and furans. These four chemical contaminants were responsible, at least in part, for 92% of all fish consumption advisories in effect for estuarine and coastal marine waters in 2003. These data are provided by states or other regulatory agencies and compiled in nationally maintained databases. The agencies contributing these data use different methodologies and criteria for assessment; therefore, the data cannot be used to make broad-based comparisons among the different coastal areas.

For the 2003 swimming season, EPA gathered information on 4,080 beaches monitored nationwide (both inland and coastal) through the use of a survey. The survey respondents were state and local government agencies from coastal counties, cities, or towns bordering the Atlantic Ocean, Gulf of Mexico, Pacific Ocean, and the Great Lakes, and included agencies in Hawaii, Puerto Rico, the U.S. Virgin Islands, Guam, and the Northern Mariana Islands.

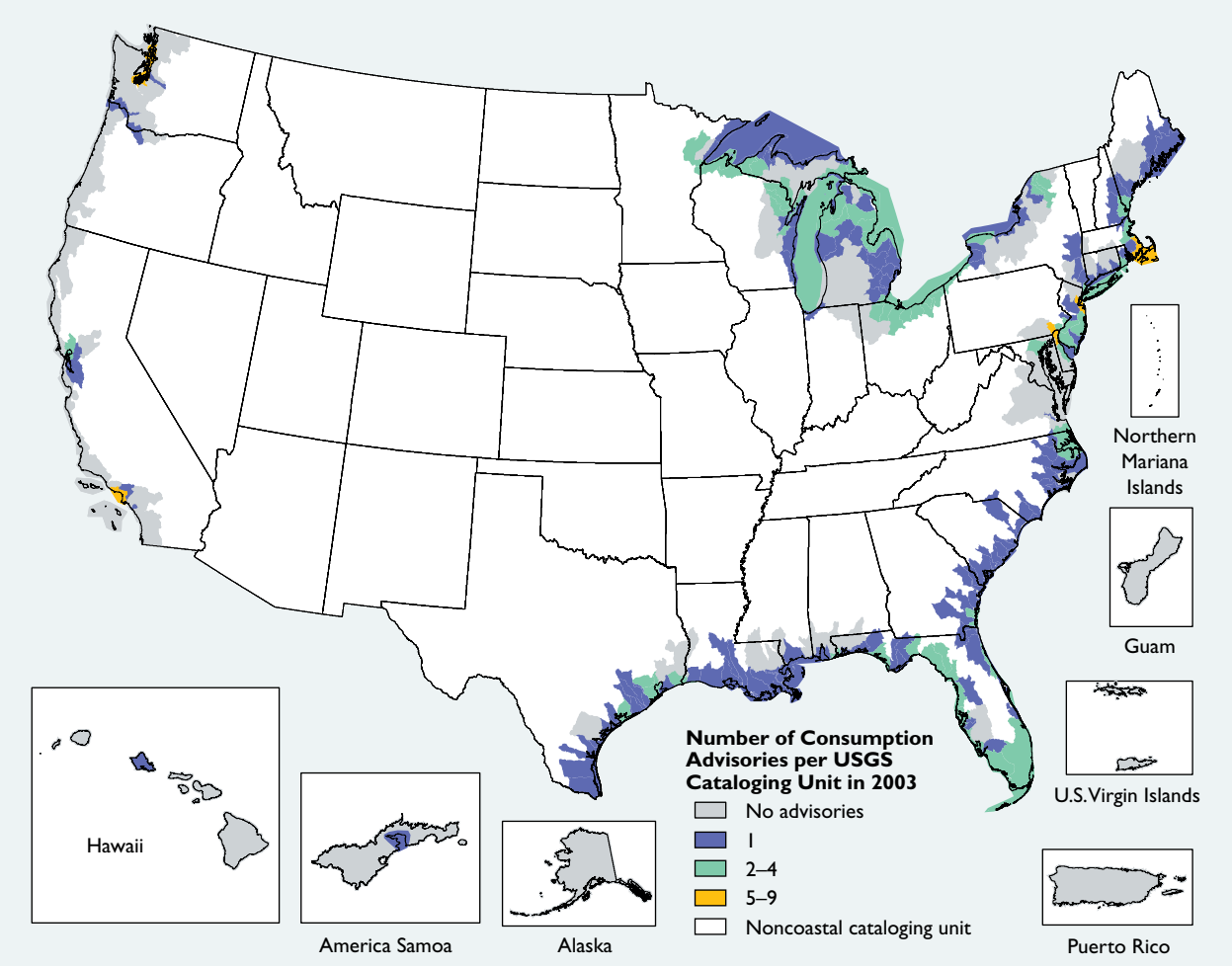

Figure ES-4. The number of fish consumption advisories active in 2003 for U.S. coastal waters (U.S. EPA, 2004b).

A few of these respondents were regional (multiple-county) districts. These respondents report the results of their local monitoring programs; therefore, the monitoring methods and closure criteria may vary between respondents. EPA's review of coastal beaches (U.S. coastal areas, estuaries, the Great Lakes, and the coastal areas of Hawaii and the U.S. territories) showed that, of the 4,080 beaches reported in the survey responses, 4,070 were marine or Great Lakes beaches. Of the coastal beaches monitored and reported, 839 (or 20.5%) had an advisory or closing in effect at least once during the 2003 swimming season (Figure ES-5). Beach advisories or closings were issued for a number of different reasons, including elevated bacterial levels in the water, preemptive reasons associated with rainfall events or sewage spills, and other reasons. Some of the major causes of public notifications for beach advisories and closures were stormwater runoff, wildlife, sewer line problems, and in many cases, unknown sources.

Beach advisories and closures are issued to protect people against contact with water potentially contaminated with pathogens (courtesy of Andrew D. Stahl).

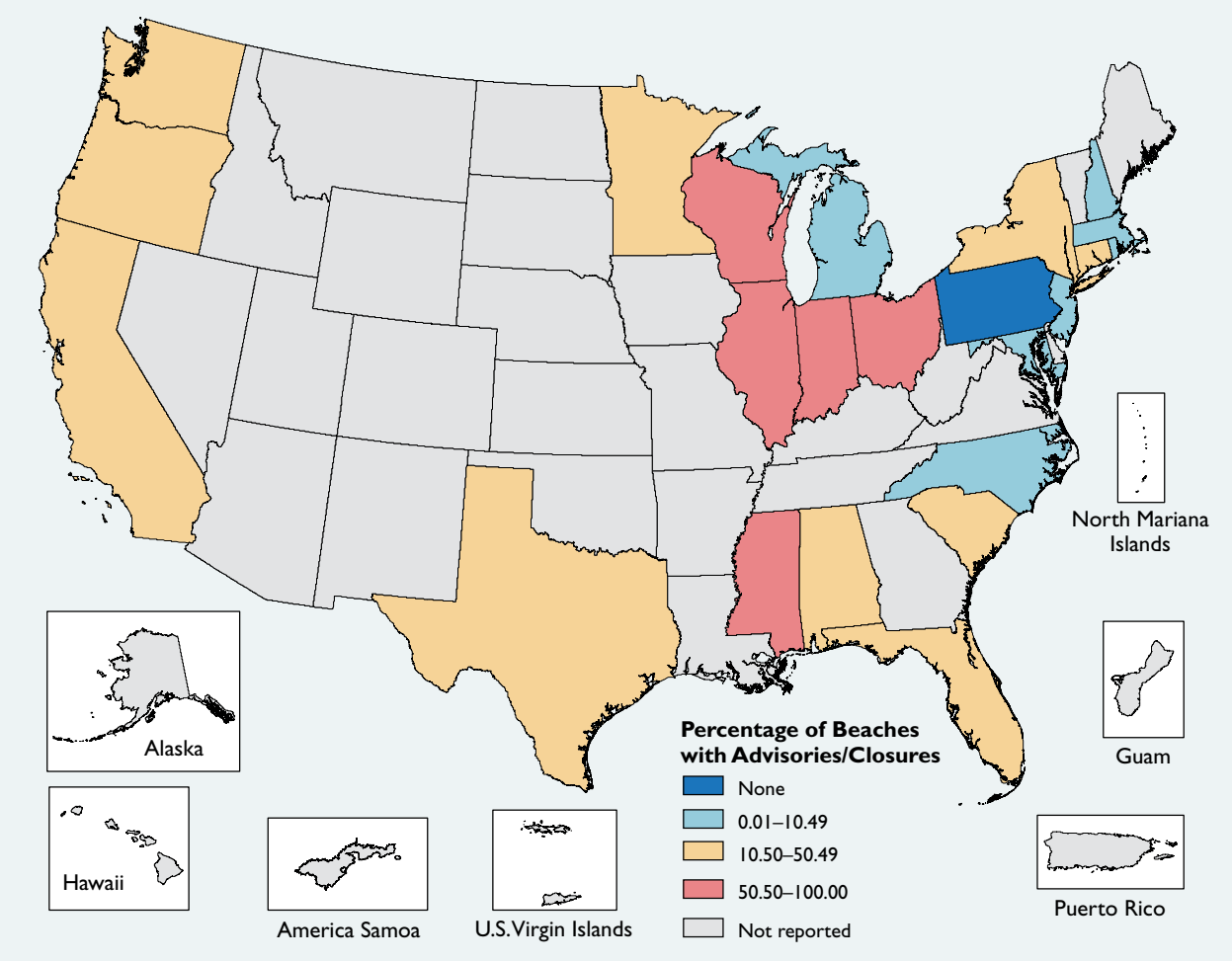

Figure ES-5. Percentages of beaches with advisories/closures by coastal state in 2003. Percentages are based on the number of beaches in each state that were reported, not the total number of beaches (U.S. EPA, 2006c).

Limitations of Available Data

This report focuses on coastal regions for which nationally consistent and comparable data are available. Such data are currently available for the conterminous 48 states, Southcentral Alaska, Hawaii, and Puerto Rico. Nearly 75% by area of all the coastal waters, including the bays, sounds, and estuaries in the United States, is located in Alaska, and no national report on coastal condition can be truly complete without information on the condition of living resources and use attainment of these waters. For this report, coastal monitoring data were only available for the southcentral region of Alaska. Other Alaskan regions will be assessed in future installments of the *National Coastal Condition Report* series. Coastal monitoring information has not been available for the U.S. Virgin Islands or the Pacific territories to support estimates of condition based on the indices used in this report. Although these latter systems make up only a small portion of the nation's coastal waters, they represent a set of estuarine subsystems (such as coral reefs and tropical bays) that are not located anywhere else in the United States, with the exception of the Florida Keys and the Flower Gardens off the Louisiana/Texas coast. These unique systems were surveyed in 2004 and will be included in future national coastal condition assessments.

This report makes the best use of available data to characterize and assess the condition of the nation's coastal resources; however, the report cannot represent all individual coastal and estuarine systems of the United States or all of the appropriate spatial scales (e.g., national, regional, and local) necessary to assess coastal condition. This assessment is based on a limited number of ecological indices and component indicators for which consistent data sets are available to support estimates of ecological condition on regional and national scales. Through a multi-agency and multi-state effort over the continuing decade, a truly consistent, comprehensive, and integrated national coastal monitoring program can be realized. Only through the cooperative interaction of the key federal agencies and coastal states will the next effort to gauge the health of the coastal ecosystems in the United States be successful.

Although most of the chapters in this report use ecological indicators to address the condition of coastal resources in each region, Chapter 9 addresses coastal condition in the context of how well coastal waters are meeting expectations for human use. Only one coastal waterbody, Narragansett Bay in Rhode Island and Massachusetts, was evaluated for human use expectations in this report. In the case of this estuary, it appears that human uses are being met; however, as with most other coastal waterbodies, there are limitations on some uses, such as public access to beaches, long-term changes in commercial fishing stocks, and fish consumption advisories.

Boating is one of the many ways people use Narragansett Bay (courtesy of Chris Deacutis).

Comparisons to Other National Coastal Condition Reports

A primary goal of the *National Coastal Condition Report* series is to provide a benchmark of coastal condition to measure the success of coastal programs over time. To achieve this end, the conditions reported in each report need to be comparable. For the first two reports (NCCR I and NCCR II), there was insufficient information to examine the potential trends in coastal condition that might be related to changes in environmental programs and policies. In the NCCR III, the information from 1990 through 2002 is evaluated for potential trends.

Comparing data between the NCCR I, NCCR II, and NCCR III is complicated because, in some cases, indices and component indicators were changed to improve the assessment. For example, in the NCCR I, three separate indicators (dissolved oxygen, water clarity, and eutrophication) were used for water quality, whereas a single water quality index (composed of five component indicators) was used in the NCCR II. In addition, reference conditions for some of the indices and component indicators were modified to reflect regional differences. In order to facilitate a comparison between the NCCR I and NCCR II, the values reported in the NCCR I Executive Summary were recalculated, to the extent possible, using the approaches followed in the NCCR II and NCCR III (Table ES-3). For additional information about how these values were recalculated, please refer to Appendix C of the NCCR II, which is available online at http//www.epa.gov/owow/oceans/nccr2.

Table ES-3. Rating Scores by Index[a] and Region Comparing the NCCR I, NCCR II, and NCCR III[b]

Region		Index					
		Water Quality	Sediment Quality	Coastal Habitat	Benthic	Fish Tissue Contaminants	Overall Condition
Gulf Coast	v1	1	3	1	1	3	**1.8**
	v2	3	3	1	2	3	**2.4**
	v3	3	1	1	1	5	**2.2**
Southeast Coast	v1	4	4	2	3	5	**3.6**
	v2	4	4	3	3	5	**3.8**
	v3	3	3	3	5	4	**3.6**
Northeast Coast	v1	1	2	3	1	2	**1.8**
	v2	2	1	4	1	1	**1.8**
	v3	3	2	4	1	1	**2.2**
Southcentral Alaska	v1	–	–	–	–	–	–
	v2	–	–	–	–	–	–
	v3	5	5	–	–	5	**5.0**[d]
Hawaii	v1	–	–	–	–	–	–
	v2	–	–	–	–	–	–
	v3	5	4	–	–	–	**4.5**[d]
West Coast[c]	v1	1	2	1	3	3	**2.0**
	v2	3	2	1	3	1	**2.0**
	v3	3	2	1	5	1	**2.4**
Great Lakes[c]	v1	1	1	1	1	3	**1.4**
	v2	3	1	2	2	3	**2.2**
	v3	3	1	2	2	3	**2.2**
Puerto Rico[c]	v1	–	–	–	–	–	–
	v2	3	1	–	1	–	**1.7**
	v3	3	1	–	1	–	**1.7**
United States[e]	v1	1.5	2.3	1.6	1.5	3.1	**2.0**
	v2	3.2	2.1	1.7	2.0	2.7	**2.3**
	v3[f]	3.3	1.6	1.7	2.1	2.9	**2.3**
	v3[g]	3.9	2.8	1.7	2.1	3.4	**2.8**

[a] Rating scores are based on a 5-point system, where a score of less than 2.0 is rated poor; 2.0 to less than 2.3 is rated fair to poor; greater than 2.3 to 3.7 is rated fair; greater than 3.7 to 4.0 is rated good to fair; and greater than 4.0 is rated good.

[b] AK and HI were not reported in the NCCR I or NCCR II. The NCCR I assessment of the Northeast Coast region did not include the Acadian Province. The West Coast ratings in the NCCR I were complied using data from many different programs.

[c] West Coast, Great Lakes, and Puerto Rico scores for the NCCR III are the same as NCCR II (no new data for the NCCR III except for the West Coast benthic index).

[d] Overall condition scores for Southcentral Alaska and Hawaii were based on 2–3 of the 5 NCA indices.

[e] U.S. score is based on an areally weighted mean of regional scores.

[f] U.S. score excluding Southcentral Alaska and Hawaii.

[g] U.S. score including Southcentral Alaska and Hawaii.

v1 = NCCR (adjusted scores from Table C-1 in NCCR II); v2 = NCCR II; v3 = NCCR III

Comparison of the overall condition scores presented in each report shows that the overall condition of U.S. coastal waters has improved slightly since the 1990s. Although the overall condition of U.S. coastal waters is rated fair to poor or fair in all three reports, the score increased from 2.0 in the NCCR I to 2.3 in the NCCR II and NCCR III (without Southcentral Alaska and Hawaii). With the addition of data for Southcentral Alaska and Hawaii, the score increased from 2.3 to 2.8 in the NCCR III. It should be noted that the overall condition scores for Southcentral Alaska and Hawaii are based on only 2 or 3 of the 5 NCA indices because data were not available for all indices (see Chapter 8 for more information). The water quality index score for U.S. coastal waters has improved substantially since the NCCR I, and smaller improvements in the sediment quality and benthic index scores were also noted during this time. The fish tissue contaminants and coastal habitat index scores have shown little or no improvement since the NCCR I. A more detailed comparison of the assessment results from the three reports appears in Chapter 2 of this report.

Future Efforts

NCA is continuing efforts to assess more U.S. coastal waters using common methods. The southeastern region of Alaska was surveyed in 2004, and assessment of the vast Aleutian Islands region of Alaska began in the summer of 2006, with field work completed in the summer of 2007. Puerto Rico, the U.S. Virgin Islands, Guam, and American Samoa were assessed in 2004–2005, and Hawaii was resurveyed in 2006. These results will be presented in the *National Coastal Condition Report IV* (NCCR IV). New ecological monitoring programs will permit a comprehensive and consistent assessment of all of the nation's coastal resources by 2008.

Icy Bay is located in the southeastern region of Alaska and was assessed for the NCA in 2004. The results of this assessment will be presented in the NCCR IV (courtesy of Captain Budd Christman, NOAA).